

### **Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application.

### **Listing of Claims:**

1. (currently amended) A composition of matter for use in the formation of alkaline earth-containing materials, comprising:

an isolated compound comprising an alkaline earth metal beta-diketonate (and the isoelectronic derivatives thereof) and an amine, said compound being a liquid at 60°C and capable of being vaporized,

wherein said compound has a formula  $MA_2N_x$ , where M is an alkaline earth metal, A is a beta-diketonate (and the isoelectronic derivatives thereof), N is an amine, and x is one or two.

2. (currently amended) The A composition of matter of claim 1 matter for use in the formation of alkaline earth-containing materials, comprising:

~~a compound comprising an alkaline earth metal beta diketonate (and the isoelectronic derivatives thereof) and an amine,~~ wherein said compound is being a liquid at 20°C and capable of being vaporized.

3. (original) The composition of matter as in claim 1, wherein the beta-diketonate has the formula,  ${}^1RC(=O)CHR^3C(=O)R^2$ , where  ${}^1R$  and  $R^2$  are independently selected and are an alkyl group, a fluoroalkyl group, an alkyl group substituted by other elements, or an aryl group, and  $R^3$  may be hydrogen, an alkyl group, a fluoroalkyl group, or an alkyl group substituted by other elements.

4. (original) The composition of claim 3, wherein the groups  $R^1$  and  $R^2$  contain four or five carbons.

5. (original) The composition of claim 3, wherein the group  $R^3$  contains less than two carbons.

6. (original) The composition of claims 4 or 5, wherein the beta-diketonate ligand is chosen from those listed in Table 1 of the specification.

7. (original) The composition of matter as in claim 1 or 2, wherein the amine has the formula,  $R^a N(R^b) CH_2 CH_2 \{ N(R^c) CH_2 CH_2 \}_n N(R^d) R^e$ , wherein  $R^a$ ,  $R^b$ ,  $R^c$ ,  $R^d$ , and  $R^e$  are independently selected and are hydrogen or an alkyl group, a fluoroalkyl group, and alkyl group containing oxygen- or nitrogen-containing species or an aryl group, and  $n$  is a non-negative integer.

8. (original) The composition of matter as in claim 7, wherein  $n$  has the value 0, 1 or 2.

9. (original) The composition of matter as in claim 7, wherein  $n$  has the value 1.

10. (original) The composition of matter as in claim 7, wherein at least one of the groups  $R^a$ ,  $R^b$ ,  $R^c$ ,  $R^d$ , and  $R^e$  contains more than one carbon atom.

11. (original) The composition of matter as in claim 7, wherein the amine is selected from Table 2 of the specification.

12. (original) The composition of matter as in claim 1, wherein the amine complex of a barium beta-diketonate is chosen from Table 4 of the specification.

13. (original) The composition of matter as in claim 2, wherein the compound is chosen from Tables 3, 5, 6, 7 or 8 of the specification.

14. (original) The composition of matter as in claim 1, wherein the compound has a solubility greater than 1 molar in a liquid solvent.

15. (original) The composition of matter as in claim 1, wherein the compound has a solubility greater than 0.5 molar in a liquid solvent.

16. (currently amended) A process for forming a material containing an alkaline-earth metal, comprising:

providing a liquid ~~comprising~~ consisting essentially of a compound including an alkaline earth metal beta-diketonate (and the isoelectronic derivatives thereof) and an amine, wherein said compound has a formula  $MA_2N$ , where M is an alkaline earth metal, A is a beta-diketonate (and the isoelectronic derivatives thereof), said beta-diketonates being the same, and N is an amine, and

contacting the liquid or its vapor with a heated surface in a deposition process to deposit a material containing an alkaline-earth metal.

17. (original) The process of claim 16 in which the deposited material comprises one or more metal oxides.

18. (currently amended) The process of claim 16 in which the alkaline earth metal or metals are selected from the group consisting of barium, and strontium ~~and titanium~~.

19. (currently amended) The process of claim ~~16~~22, wherein the non-alkaline earth metal-containing compound comprises a ~~in which the~~ metal or metals ~~are~~ selected from the

group consisting of ~~strontium~~, bismuth, niobium, titanium and tantalum, and depositing a compound comprising an alkaline earth metal and a one or more of bismuth, niobium, titanium and tantalum.

20. (original) The process of claim 16, wherein a sol-gel process is used to deposit material containing one or more metals or metal oxides.

21. (original) The process of claim 16, wherein a spray-coating or spin-coating process is used to deposit material containing one or more metals or metal oxides.

22. (new) The process of claim 16, further comprising providing a non-alkaline earth metal-containing compound, and depositing a compound comprising a non-alkaline earth metal and an alkaline earth metal.

23. (new) The composition of matter of claim 1, wherein the beta-diketonates are the same.

24. (new) A composition of matter for use in the formation of alkaline earth-containing materials, comprising:

a compound comprising an alkaline earth metal beta-diketonate (and the isoelectronic derivatives thereof) and an amine, said compound being a liquid at 60°C and capable of being vaporized,

said compound being substantially free of a second alkaline earth metal beta-diketonate compound.

25. (new) A composition of matter for use in the formation of alkaline earth-containing materials, comprising:

a compound comprising an alkaline earth metal beta-diketonate (and the isoelectronic derivatives thereof) and an amine, wherein the beta-diketonate is the same, and the compound is a liquid at 60°C and is capable of being vaporized.